Project Cycle Guide - UNE Academy of Digital Sciences

Preliminaries - 1 hour

The UNE Academy Project Cycle is probably familiar to you. It is a process of exploration and testing similar to the scientific method in school and is called "Agile" in many workplaces focused on digital technologies. However, think of the Academy Project Cycle as a "improvement" rather than a big school project.

The goal is to find a small problem (perhaps something that doesn't work well in an existing digital tool or service) and propose and test an improvement. The process of making many small, continuous improvements is at the heart of "agile businesses."

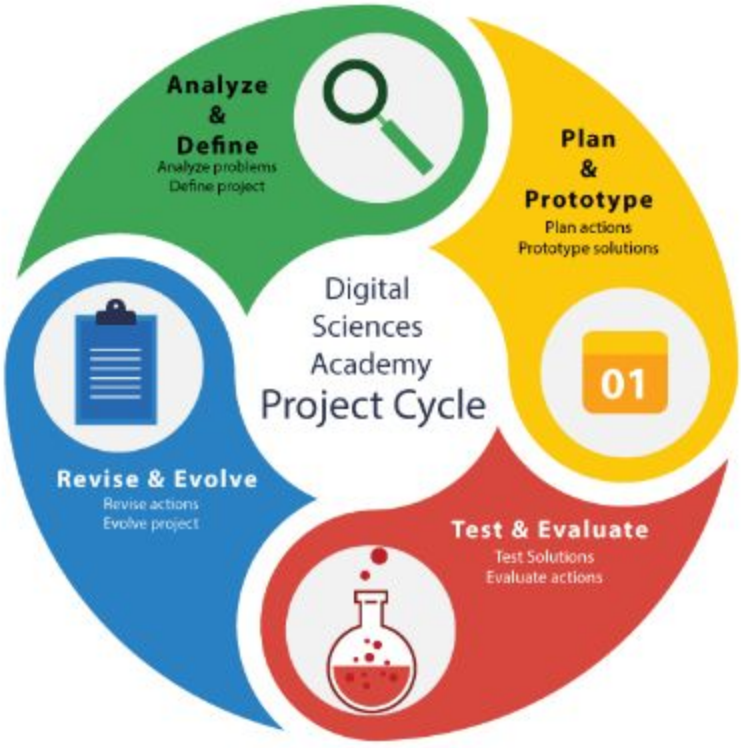
There are 4 phases in an agile project cycle: Analyze/Define, Plan/Prototype, Test/Evaluate, and Revise/Evolve. This iterative cycle allows for continual evaluation and refinement improving a product or service each cycle.

You will be completing a short project cycle during each Academy course, from understanding a problem and proposing a solution, to planning and creating a prototype, to evaluating your prototype and making recommendations for the next cycle. Becoming confident in your approach and execution of the Project Cycle provides experience in a valuable workplace practice.

Overview of the Project Cycle

The Project Cycle includes the following steps:

- Phase A: **Analyze** a problem and **Define** a possible solution (or part of it)
- Phase B: **Plan** the work and **Prototype** a demo solution (or, more likely, part of a solution)
- Phase C: **Test** your demo prototype and **Evaluate** whether it solves the problem



- Phase D: **Revise** the demo prototype to better solve the problem and **Evolve**, envisioning future improvements

Sharing the work

Throughout each phase of your project, you will be adding your work to a Project Report Template which, at the end of your course, will serve as a final report of your work. You will continue working on it throughout your course, adding new text each week, so that you can watch your progress and development. You will also submit your week-by-week developments through your course's forum on Blackboard.

Remember that your work within the UNE Academy is reflecting business environments where solid collaboration and communication skills are crucial. In addition to technical skills, you'll be learning both the professional and project competencies that employers desire.

Submissions are observed by a Professional Mentor using the competencies that are included with each phase. Once each week's contributions are observed, the Professional Mentor will give you feedback on your work. That feedback might be how you did something exceptionally well, how you can improve on a particular piece of what you did or both. The feedback as is not a grade. Rather, it is an indicator and discussion around your level of understanding of the Project Cycle.

The Project Template

The Project Template is a document that will capture the main points of your project, from start to finish, in 3-5 pages. Each week you'll fill out a new section as you complete each phase and, at the end of your course, you'll edit a final Project Report from these sections:

- Problem Statement
- Phase A: Analyze and Define
- Phase B: Plan and Prototype
- Phase C: Test and Evaluate
- Phase D: Revise and Evolve

The Project Client

Every project needs a client, someone who provides insight into the question to be asked and the problem to be solved. In the workplace, this could be a direct supervisor or a leader in another department. However, for your Academy Project, you will select a client that makes sense to the improvement that you identify. You may ask a colleague, friend, learning peer, or anyone that could provide insight and serve in the role of "client."

Project Partners

Few projects are completed alone. Teamwork and collaboration are key elements of industry, especially in today's 21 century, global business environment. The UNE Academy strongly encourages you to collaborate with others during all phases of your Project.

The role of partners can range from people who brainstorm with you to assigned team members who bring a variety of skills to the project. As you become more experienced with projects, the roles can become more formal.

Project Samples

To help you find project ideas that spark your curiosity, we've gathered Project Samples, which you'll find from the Blackboard navigation menu. Now is a good time to take a look. Keep some notes. Which ones interest you most? Can you imagine ways to adapt them to fit your own experience and skills?

Ready, Steady, Go

You have completed a number of steps:

1. Seen the Project Report template and Professional Reflections Document
2. Explored Project Samples for ideas
3. Considered people to serve as client and partners
4. Read through this Project Cycle Guide

You are now ready to complete the first sections of your Project Charter. Here are some tips to keep in mind.

- This Project Cycle is designed to be concise, representing a small, rapid improvement. Professionals sometimes continue working on a similar project through several iterations to create a better solution, so remember that, at the end of this cycle, you will recommend improvements for the next pass. Unlike other projects you may have completed, we are more interested in the way you approach an incremental improvement. That makes it easier to make corrections for the next cycle of improvements.
- Collaborate with others. Make sure you work with other people. You don't need a full-fledged project team, but getting used to team collaboration is a critical part of any real-world experience.

Share your ideas and work. Write with the intention of sharing each phase, and the final Report, with UNE Academy people and, eventually, with potential employers. Your Report will document your thought process as you propose and test your project.

Phase A: Analyze and Define – 2 hours

A1 - Analyze a Problem

What does it mean to analyze and define a potential solution? Choosing your area of interest is an important first step. You will want to work on a problem that is meaningful to you and has potential impact. There are a number of factors to keep in mind as you identify and define your project:

1. Find a focus area about which you are passionate or feel will have impact
2. Identify the digital tools you use to advance your knowledge and experience of the area
3. Develop a clear understanding of the issues and components that could be involved in a problem with the tools supporting this focus area
4. Understand users - the people who would be impacted by the problem and/or solution

As you choose a problem to study, look at it from a number of angles, seeking data that help you understand it. Get to know others who share your interest in the area and the toolset. Identify collaborators that can advance your understanding, effectiveness, and/or outreach. Make sure to establish clear lines of communication that can be shared easily.

Once you identify a digital product or service to study and improve, consider the knowledge and skills you are gaining through the instructional modules associated with your course. Is there something about the website or a mobile app that frustrates you, that you think could be better? Have you looked at alternatives?

Don't forget to document this entire process. You will want these records for future reference and sharing as your project evolves. Whether you are writing it down, making a video, narrating a podcast or a combination of all these modes, it is critical to maintain records of your steps, thoughts, and challenges. How would you fully describe the problem to someone who doesn't know either you or the problem?

Samples

> *Many corporations charge back IT time to projects or directly to clients. This is necessary to track project budgets, improve project budget and resource planning and for some corporations that directly bill clients, this is necessary for accurate billing. When an IT resource works on multiple projects or clients a week, it is important to carefully track the time spent on each project and/or client. Some IT resources do not accurately track their time especially if they are very busy or if they have not developed their own system to track this information.*

A major healthcare organization in Maine will release an updated website in mid-May that fully integrates the services provided by its partner members, including a mental health service provider. Stakeholder reviews indicate the resource section of the mental health service provider portion of the site is in need of improvement. This report will serve as documentation to illustrate the journey taken to solve this problem by following the phases of the Discovery Project Cycle.

A2 - Define a Problem

Once you understand the problem, define the improvement that will solve the problem. Remember, this is designed to be an iterative process that is completed in approximately 10 hours of work. Keep the scope of your project to a size that is doable within this timeframe. Identify the most important part of the problem that you can improve with the resources at hand and your level of knowledge. In this way you will be able to complete an entire Project Cycle.

Make meaningful time to research, think about and reflect upon the core reason that is driving your work on this project.

- What is the cause and eventual effects of the problem?
- What impact might a solution have for how large an audience?
- Has the problem been identified previously? If so, what was done?
- What identifiers exist that clearly define the problem?
- What measurable metrics exist that allow you to build an effective analysis?

Capture the investigation and thinking you've done to this point and share it on Blackboard with your fellow students and Professional Mentor.

Phase A - Competencies Covered

- **Critical & Analytical Thinking:** Uses logic, reasoning, and analysis to address problems.
- **Situation Analysis:** Presents sufficient and appropriate data/information. Analyzes data/information for accuracy, relevance, and validity.
- **Problem Clarification:** Identifies most or all key issues and/or problems. Details problem with clear scope and output definitions.

Phase A - Self-Study Resources

General

- What is Problem Solving?
- Problem Solving Definition and Overview

Business

- Are You Solving the Right Problem?
- How to Make Better Decisions

Education

- Framework on Problem Solving
- Polya's Problem Solving Techniques

Phase B. Plan and Prototype – 2 hours

Planning and prototyping is the most iterative component in the Project Cycle. This is because it takes numerous trial and error cycles of refinement to work toward a solution. Repeated modification of prototypes is very common and means that you are doing something right! Expect to come back to this section of the template frequently as your plan evolves and moves closer to conclusion. Be sure to record all these steps and results.

- What are the milestones that need to be accomplished for the project to be successful?
- What are the tasks that lead up to the identified milestones?
- How long do you estimate that it will take each task to be accomplished?
- Who is responsible for accomplishing task?
- What is the most accessible way for you to make a prototype?
- Do you have access to the tools and/or processes that are used in business to create prototypes?

How will you create a prototype that effectively allows your work to be tested and interacted with?

B1 - Develop a Plan of Action

Now that you have a clearly defined problem and proposed improvement, it's time to make a plan and execute it. How are you going to begin to demo the improvement that you defined? Remember, this whole project should take 10 to 15 hours and you've already spent some time on it in Phase A, so the plan that you define in this phase needs to be able to fit within the remaining scope.

You are not expected to have a major project completed by the time you rotate through each cycle but, rather, an element that moves one improvement forward, that can be evaluated and furthered in future. It's like making Grandma's lasagna over and over again until you get the recipe just right.

First, you'll need to envision the demo improvement you wish to create?

- What would the demo look like?
- Can you draw a picture of it?
- Can you describe it in words?

Now that you've developed a vision of your demo prototype, how will you create it? What do you need to learn? What steps do you need to follow?

A project plan is a list of the tasks you'll need to undertake to create, test, and improve your demo. Some project plans have hundreds of tasks while others, like making a cake, have a handful of tasks and a couple of milestones. Nevertheless, all projects have a plan of action and what you're doing now is no different. Your project plan should include at least some of these very general points:

- How you're going to create your prototype?
- How people will access your prototype?
- How people will test your prototype?
- How people will give you feedback on your prototype?
- How you will capture the feedback?

Next, it's time to define the tasks that need to be accomplished in order to create your design demo. Here are some things to consider:

- What features or experiences are you planning to demo?
- What exactly needs to be done?
- What are the tasks that need to be completed?
- How long will each take?
- Who will be working on them?

As you're building your plan of action, it's important to be aware of your current interests and ability level so that you stretch your abilities, but also realistically finish what you set out to do.

B2 - Create a Demo

Since you will be creating a demo "prototype," you have selected a small part of a product or service to improve. This allows you to test rapidly and recommend the next level of improvements. This is often called "fail fast and fail cheap."

Create your demo with the intention that it is not the final solution, but rather a quick and simple stepping stone towards the next, better solution. Keep in mind that all improvements can themselves be improved upon.

As you're building your demo, keep in mind that it will need to be tested by someone other than yourself. It's very easy to look past flaws that are in a prototype when you're the one who made it, so your work needs to be done with collaboration in mind.

With whom will you share it? Did you define a client or partner at the beginning of the project cycle? Is this the person who will now try out or hear about your demo? How will you get their feedback? Whether you've created a digital portfolio or app feature or interface wireframes or data analysis, how will you test it and get feedback? Is that part of your project plan?

Phase B - Competencies Covered

- **Interpersonal skills:** Demonstrates skills for working with others from diverse backgrounds.
- **Communication & Writing:** Communicates verbally and in writing well enough to be understood.
- **Continuous Learning**: Demonstrates willingness to learn and apply new knowledge and skills.
- **Planning & Organizing**: Plan and prioritize work to manage time effectively and accomplish assigned tasks.
- **Project Plan**: Demonstrate a clear understanding of the project and identify problems, working cohesively towards resolving problems and within the project scope.
- **Prototype Development:** Develop prototype that demonstrates a strong understanding of project and action plan and clearly shows how problems are being addressed.

Phase B - Self-Study Resources

General

- Action Plans: Small-Scale Planning
- How to Get Started on Your Big Idea: You Need a Prototype

Learning

- Prototyping Framework
- Developing Strategic and Action Plans

Business

- The Purpose of Prototypes
- Creating a Product Prototype

Phase C: Test and Evaluate – 2 hours

As you create and continually modify prototypes through a feedback loop, it is critical to record the evaluations and reactions.The work testing the prototype is only valuable if data is captured and can be analyzed in a meaningful way. Take your time as you examine the information that was gathered, the impacts and new directions resulting from the data. You must also reflect upon the effects of your method on the data. The following questions will help you consider all of the above.

- How did you communicate with people that your prototype is ready to test?
- How did people interact with your prototype?
- What measurable metrics are you going to capture during the testing process?
- How did you capture the testing data?
- What did you learn from the data?

C1 - Test Your Demo

There are many reasons for others look at and test your demo. After working on it for a while, it's difficult to step back and look at the big picture. Also, it's easy to feel judged on the basis of unpolished work. One option is to present your prototype with a disclaimer that is a demo and is being shared for testing purposes only.

While people test your work, capture their feedback. That can be as simple as observing them using the demo, and asking questions. Keep these points in mind.

- How will you convey the context for the demo — what comes before and after?
- What are the features for which you need feedback?
- Are the people testing your demo from different backgrounds and expertise?
- How will you direct them to provide meaningful feedback?

If you hear a comment like, “That didn’t work,” ask for more information. “I couldn’t read the text under the headings” or “I don’t understand what to do next” or “I’m not sure where to click” is much more helpful.

C2 - Evaluate Feedback

It's important to capture the feedback that people are giving you and to do your best to understand what it means. It's not always immediately evident that something is good, bad or indifferent based on the feedback you receive.

Follow up on feedback in a constructive and professional manner asking for additional details and/or suggestions for improvement. Do your best to work with what you have and evaluate as necessary.

- Did the feedback address your primary goals for creating the demo?
- Did you have to change the ways you were capturing the feedback so it was more effective?
- Did your prompts change for people testing your demo?
- Did someone give feedback that was especially valuable? What made it valuable?
- What did you learn using the feedback and testing steps you put in place?
- What advice would you give to future learners if they did something similar?

Once you feel you have received enough meaningful feedback from others, capture it, add it to your Project Cycle Template and share in in your weekly assignment submission.

Phase C - Competencies covered

- **Interpersonal Skills & Teamwork:** Works cooperatively with others from diverse backgrounds to complete work assignments.
- **Systems Thinking:** Acknowledges multiple approaches, synthesizing perspectives, and acknowledging context.
- **Testing:** Provides clear direction and accessible testing environment.
- **Evaluation:** Displays clear understanding of test results.

Phase C - Self-Study Resources

General

- Evaluation: What Is It and Why Do it?
- Software Testing: A Culture of Quality

Education

- Developing an Evaluation Plan
- Usability Testing - Best Practices

Business

- How to Create an Effective Monitoring and Evaluation Framework
- Assess Test and Evaluation Plans and Procedures

Phase D: Revise and Evolve – 2 hours

D1 - Revise Based on Feedback

You're ready to start wrapping up your Project Cycle. What did you learn? What would you do differently? Did the problem you chose prove to be the right one? Did your demo prototype fit the problem? Did the testing open the door to possibilities you hadn't considered before?

Take a step back and look at your work as objectively as you can. This is another good opportunity to get feedback from other learners in the UNE Academy and/or your Professional Mentor. Often it can be challenging to get perspective on your own work.

In this step, you pull together your observations thus far and start making some conclusions. What worked well and what was unexpected?

D2 - Evolve Your Project

The last phase is about next steps.

If you were to continue working on this problem and solution next week, what would you keep? What would you change? Would your problem statement be different? Should the project continue to go down the current path or pivot in a new direction? Why or why not? If another team were to pick this project up and run with it, what advice would you give them?

Working on an agile Project Cycle helps you and your team rapidly test improvements and create a better product or solution in the next cycle.

Now is the time to step back and see the forest when we were previously looking at the trees. What would be next?

Phase D - Competencies Covered

- **Initiative & Flexibility:** Demonstrates a willingness to work and capability to adapt to new, different, or changing requirements.
- **Continuous Learning:** Demonstrates willingness to learn and apply new knowledge and skills.

- **Recommend:** Presents recommendations for revision that are mostly logical, complete, and consistent, and demonstrates some unique or creative insight.

Phase D - Self-Study Resources

General

- Post-Implementation Reviews
- How We Implement New Product Features Backed by Customer Feedback

Education

- Software Evolution
- Website Redesign Proposal

Business

- How to Collect Customer Feedback From Your Colleagues
- Guide to the After Action Review

The Final Project Report and the Academy Roundtable

Now that you've been through a full Project Cycle, it's time to pull it all together.

Go back through your complete Project Report Template and make a final edit to get it ready to share with potential employers. Make a PDF of the final version and upload it to your public digital portfolio, whether in Wordpress, GitHub, or another platform. Submit the URL to your mentor.

Every session, UNE employers and professionals gather on the Portland campus to meet incoming learners and those who've recently completed an Academy course. Check with your mentor or the schedule on Blackboard for the next Roundtable.

During the 90-minute "Meet-and-Greet" session, you will have the opportunity to hear from employers — their organization's market and mission, their own role, and what they're seeking in future employees. Then, you will have an opportunity to meet them.

What will you say? Can you pare down your Professional Reflections and Project Report into two to three talking points? Can you prepare questions for the employers? What do you want to know?

Sharing your talking points and questions with your peers and mentors in advance will help you prepare. Don't miss the opportunity.

5/20/17, 7/27/17, 9/14/17. 9/25/17